

WHAT IS CLAIMED IS:

1. A valve timing control device comprising:
a rotation member for opening and closing valves,
a rotation transmitting member rotatably mounted on the rotation member,
a fluid chamber defined between the rotation member and the rotation transmitting member,
a vane fitted into a vane groove formed on the rotation member or the rotation transmitting member so as to divide the fluid chamber into a advance angle pressure chamber and a retard angle pressure chamber,
the vane groove having contacting portions contacted with the vane and
an elastic member disposed between the vane and the rotation member or the rotation transmitting member,
wherein the radial length between the bottom portion of the vane groove and a bottom portion side end portion of the contacting portion is larger than a radial length between the bottom portion of the vane groove and an engaging portion of the vane engaged with the elastic member.
2. A valve timing control device as recited in Claim 1, wherein a pair of projection portions are formed on both axial ends of a bottom side end portion of each vane and a concave portion is formed between the projection portions, and the engaging portion is formed on a bottom of the concave portion.
3. A valve timing control device as recited in Claim 2, wherein the bottom portion of the vane groove has a flat surface shape.
4. A valve timing control device as recited in Claim 3, wherein a radial length between the bottom portion of the vane groove and the engaging portion is smaller than a width of the vane spring.